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INCREASING SELF-DETERMINATION: TEACHING PEOPLE WITH MENTAL RETARDATION TO EVALUATE RESIDENTIAL OPTIONS

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The community living preferences of 4 institutionalized adults with mild mental retardation were identified using photographs that depicted a variety of residential characteristics. Individuals then were taught to obtain information regarding their preferences during tours of community group homes, to report that information to their social worker, and to evaluate the homes based on the information obtained. A multiple baseline across participants design showed that all 4 participants substantially increased their skills at asking questions, reporting information, and evaluating homes. The results indicate that people with mental retardation can take an active role in major lifestyle decisions that others have typically made for them.

DESCRIPTORS: self-determination, mental retardation, preferences, task analysis

Self-determination has been defined as "the capacity to choose and to have those choices be the determinants of one's own actions" (Deci & Ryan, 1985, p. 38). For most people, self-determination (expressing preferences and making choices) is a part of life often taken for granted. From deciding when to get up in the morning, what to have for breakfast, and what clothes to put on for the day to what to eat for an evening snack and what time to go to bed, opportunities to express preferences and make choices based on those preferences pervade virtually every aspect of daily life. Almost all people, including those with disabilities, have the ability to express and communicate their preferences and to participate in making decisions that affect their daily lives (Williams, 1991), yet opportunities to do so are often conspicuously absent for persons with mental retardation. Historically, institutionalized persons with mental retardation have been afforded very few opportunities to exercise choice in matters that directly affect them (Kishi, Teelucksingh, Zollers, Park-Lee, & Meyer, 1988). The habilitative goals, work and leisure activities, and daily routines of people with mental retardation are often determined by service providers with little or no input from the very people whose lives those decisions affect (Bannerman, Sheldon, Sherman, & Harchik, 1990).

Despite the lack of decision-making opportunities, it has been argued that preference expression and choice making are important skills for persons with mental retardation (Bannerman et al., 1990; Guess, Benson, & Siegel-Causey, 1985; Shevin & Klein, 1984). Expressing preferences and making choices based on those preferences have been identified as essential aspects of functioning independently in society (Shevin

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& Klein, 1984; Taylor & Brown, 1988). Persons with mental retardation should be given the opportunity both to learn these skills and to utilize them to the fullest extent possible. Indeed, the degree to which individuals are allowed to express preferences and exercise choice serves as one index of their quality of life (Guess et al., 1985) and is the basis for the standards set forth by the Accreditation Council (Accreditation Council, 1992). Quality of life may be enhanced when increased opportunities to express preferences and exercise choice lead to an increased sense of "empowerment, autonomy, and independence" (Keith, 1990, p. 98). Thus, attempts at improving the quality of life for persons with disabilities should include increased opportunities for them to express their preferences and to make decisions based on those preferences.

In general, applied behavioral research involving self-determination of people with mental retardation has focused on relatively minor daily decisions. In a study designed to assess food preferences among persons with profound mental retardation, it was demonstrated that even persons who were nonverbal clearly indicated a preference for at least one food item (Parsons & Reid, 1990). During repeated presentations of paired food items, 5 nonverbal participants reliably chose one item over the other. Another study designed to identify reinforcer preferences of persons with profound mental retardation examined the reinforcing value of various stimuli by making their presentation contingent upon the occurrence of arbitrarily selected target behaviors (Pace, Ivancic, Edwards, Iwata, & Page, 1985). The results of the study revealed that participants had preferences for specific stimuli and that the contingent delivery of preferred stimuli produced higher rates of responding with respect to the target behaviors than did the contingent delivery of nonpreferred stimuli.

Additional research has focused on identifying leisure and vocational preferences of persons with severe disabilities. Studies involving the effects of choice on leisure activities have demonstrated that persons with mental retardation not only are able to indicate preferred activities but also will increase their leisure participation when given the opportunity to make choices among those preferred activities (Datillo & Rusch, 1985; Newton, Horner, & Lund, 1991). Research on the effects of preference identification and choice making on vocational tasks has produced similar results. It has been demonstrated that persons with mental retardation do in fact have preferences for certain tasks (Mithaug & Mar, 1980; Parsons, Reid, Reynolds, & Bumgarner, 1990) and that workers will attend to a task longer if they have chosen the task as opposed to being assigned the task (Parsons et al., 1990). These studies have suggested that persons with mental retardation are able to indicate preferences in a variety of situations (e.g., vocational, leisure, mealtime) and that providing them with opportunities to choose based on identified preferences may result in positive behavioral outcomes.

A national consumer survey of the self-determination of people with mental retardation revealed that the opportunity to participate in decisions that affect their lives is related to the importance of the decision (Wehmeyer & Metzler, 1995). They are more likely to be given opportunities to make day-to-day decisions such as those described above (e.g., choice of food), but are not likely to participate in major lifestyle decisions such as choosing where to live. Choosing one's residence is one of the major decisions that most adults must make (Turnbull, Turnbull, Bronicki, Summers, & Roeder-Gordon, 1989). The importance of teaching persons with mental retardation to participate in decisions regarding where they live is underscored by the present trend that indicates a steady decline of admissions to

large public institutions, the movement of persons with mental retardation out of such institutions, and a concomitant growth of community-based residential facilities (Lakin, Hill, & Bruininks, 1988). Unfortunately, residential placement decisions often reflect the preferences of those legally responsible for the persons with disabilities rather than the preferences of the persons themselves (Turnbull et al., 1989).

A recent study extended the preference and choice-making technologies to the community placement process (Foxx, Faw, Taylor, Davis, & Fulia, 1993). The study, conducted with 6 institutionalized adults with mental retardation, assessed participants' preferences regarding characteristics of community residential alternatives. Using photographs that depicted a variety of characteristics of group-home living (e.g., private vs. shared bedroom), preferences were determined by having participants identify the characteristics most important to them. Participants were then taught to ask questions about the availability of their preferences when given tours of potential residential placement sites. Finally, they were taught to convey the preference availability information in response to questions from a social worker after returning from a tour.

The purpose of the present study was to increase the self-determination skills of people with mental retardation in the residential selection process. The study extended the work of Foxx et al. (1993) by teaching participants to evaluate individual group homes based on the preference availability information that they received during tours of homes and to decide if the home would be a good place to live.

METHOD

Participants

Social workers on two living units in a state-operated facility for adults with mental retardation and dual diagnoses were asked to provide the expected discharge date of their residents. Those residents who were expected to be discharged within 6 to 12 months were identified as potential participants and were invited to participate in the study. Of the 8 residents who attended an informational meeting, 6 expressed an interest and participated in the preference identification process described below. At the conclusion of the preference identification process, 4 residents indicated a desire to continue.

Sue was a 25-year-old woman with mental retardation and borderline personality disorder. Her IQ, as measured by the Slosson Intelligence Test, was 48, but she could read at approximately a fifth-grade level. Sue participated in a vocational skills training program on a daily basis in which she performed a variety of housekeeping tasks on her living unit. During the course of the study, she began working in a local community sheltered workshop 6 hr per day.

Bob was a 20-year-old man with mild mental retardation who read and comprehended words at a second-grade level. He attended special education classes 6 hr per day.

Todd was a 22-year-old man with mild mental retardation and conduct disorder, undifferentiated type, who read and comprehended words at a first- to second-grade level. He participated in a vocational skills training program that included 3 hr of housekeeping tasks performed on his living unit.

Joe was a 24-year-old man with mild mental retardation and borderline personality disorder who read at a fifth-grade level. He worked at a community sheltered workshop 6 hr per day.

Settings

Three settings were used in this study. Assessments to evaluate participants' skills at asking questions relevant to their preferences

were conducted in two sites: (a) two 15-bed community-based group homes that were potential placement sites, and (b) a furnished, vacant two-bedroom home on the facility grounds. This home was used to simulate a variety of residential characteristics that were representative of four additional community-based group homes in the area. Assessments to evaluate participants' skill at reporting information following tours were conducted in offices on the facility grounds.

The two group homes used for the community tours and the four group homes on which the simulated tours were based were selected by comparing the availability of the preference items in the homes to the preference items selected by the 4 participants. Homes were selected that ensured participants would have three homes in which at least six of their 10 preference items were available and three homes in which less than six items were available.

General Procedures

Prior to testing or training, participants responded to a series of interviews to identify characteristics of group-home living that were most important to them (e.g., handling one's own money, using the phone anytime). After the preference identification and prior to training, participants were assessed in the community at actual group homes and in simulated group homes to determine their skill at asking questions regarding their preferences, reporting preference availability, and evaluating the homes. Next, participants were taught to use a picture booklet to assess and report the availability of their preferences and to use a worksheet to evaluate the group homes. After meeting training criterion, participants were reassessed in the simulated setting and in actual group homes. Approximately 1 month after the final community posttest, a follow-up assessment was conducted in the simulated setting.

Preference Identification

Community living preferences were identified using a 30-item preference test that had been developed and used with institutionalized adults with mental retardation and dual diagnoses (Foxx et al., 1993). The tests, administered via an interview, were conducted individually in a conference room and took 30 to 45 min. Either-or questions with accompanying photographs illustrating each preference item were used to facilitate responding and to minimize the potential sources of error associated with interview formats (Heal & Sigelman, 1990). Two photographs mounted vertically on a piece of posterboard (5 in. by 10 in.) were used with each preference item to depict the contrasting options available. For example, to determine whether a participant wanted a private room or one with roommates, the participant was shown a photograph of a bedroom with one bed and a photograph of a bedroom with two beds.

Participants were told that the purpose of the test was to help them to identify what they would like in a group home. Each preference item was presented by first displaying the appropriate pair of photographs and labeling the option each photo represented. For example, to determine the preference for smoking allowed inside versus no smoking allowed inside, the experimenter pointed to one photo and said, "This is a picture of a person smoking in a group home." The experimenter then pointed to the other photo, which showed a no-smoking sign posted in the home, and said, "This is a picture of a group home where you can't smoke inside." Participants were then asked to describe each photo to ensure that they could identify both options. Next, the experimenter presented both options again and followed this with a question designed to cue preference selection (i.e., "Which place would you rather live?"). Participants were instructed to

point to and describe their preferred option. They were assessed on this 30-item preference test on three occasions, with an average of 8.25 (range, 6 to 21) days between each assessment. The options chosen more often (i.e., at least twice) were considered preferred options. Thus, the first three assessments yielded 30 preferences.

Test-retest reliability across the three preference assessments was determined by comparing the option selected on each item across pairs of assessments (i.e., Assessment 1 to Assessment 2, Assessment 1 to Assessment 3, Assessment 2 to Assessment 3) for all 30 items. A consistent response was scored if the participant chose the same option on the two test comparisons. Reliability scores were computed by dividing the number of consistent responses by the total number of responses and multiplying by 100%. The mean test-retest reliability score was 86% (range, 67% to 100%).

Next, these 30 preference photographs were paired randomly, resulting in 15 forced-choice pairs, to determine the participants' strongest preferences. During the test, the experimenter reminded participants of their earlier choices and presented a question to cue preference selection. For example, the experimenter pointed to one photo and said, "You told us that you would like to live in a group home where you could smoke inside," and then pointed to the other photo and said, "You also told us that you would like to live in a group home where you would have your own room." The reminders were followed by the question, "Which one is more important to you, smoking inside or having your own room?" Participants were instructed to point to and describe their selection. After all 15 pairs were tested in this fashion, the photographs were shuffled and presented again so that each test paired different items. No two preferences were tested against each other more than once. These assessments were conducted three times for each participant. Two tests were conducted on the same day and the third an average of 5.75 (range, 4 to 9) days later. The tests lasted approximately 15 to 30 min.

Results of these pairings were used to determine each participant's 10 strongest preferences. Any item chosen all three times when compared with other items was included as a strongly preferred item. The number of preference items chosen on all three tests ranged from five to nine. To complete the list of 10 strongest preferences, all items chosen two out of three times when compared with other items were displayed on a table. Participants then were asked to consider all the items on the table and to select the one that would be the most important. The item selected was removed from the table and became one of the 10 strongest preferences. The process was repeated until the number of preference items totaled 10. These 10 items were later used during training.

Materials

Preference booklets. Participants were taught to assess the availability of their preferences using a small photo album (5.5 in. by 4.25 in.). Each album contained photographs depicting the participant's 10 strongest preferences. During and after training, the photographs served as discriminative stimuli for the participant to ask questions concerning the availability of those preferences. Typed below each photograph was a question regarding that preference item (e.g., "Could I smoke inside?") and three boxes labeled "yes," "no," and "maybe" in which they could record answers. Grease pencils were provided for the participants to record their answers.

Evaluation worksheets. Participants were taught to use a worksheet to evaluate each group home. The bottom half of the worksheet showed a picture of a home and a side-

walk consisting of 20 squares that ended at the front door. The last 10 squares of the sidewalk (i.e., those closest to the home) were shaded. Above the home on the top half of the worksheet were the 10 preference questions that corresponded to the participant's preference booklet. Next to each question were the words "yes," "no," and "maybe." Beside each "yes," "no," and "maybe" was a visual prompt indicating a specified number of squares to be crossed off the sidewalk leading to the house. There were two squares next to "yes," one square next to "maybe," and no square next to "no." The question, "Based on this information, would this group home be a good place for you to live?" with "yes" and "no" below it was typed in the bottom right quarter of the worksheet. If after completing the worksheet any of the shaded squares of the sidewalk were crossed off, the participant was to answer "yes" to the decision question. This indicated that the group home being evaluated scored at least 11 points. Eleven was chosen because it ensured that the home provided either a "yes" or "maybe" answer to over half of a participant's preference questions. Any score less than 11 points required a "no" decision.

Dependent Measures

The primary dependent measure was the percentage of steps correct on the 31-step self-determination task analysis that included (a) asking preference questions during actual and simulated group-home tours, (b) clarifying ambiguous answers given, (c) reporting the answers during a posttour interview with a social worker or confederate, and (d) answering the question on the suitability of the home. All steps were scored by the third author for all tours both before and after training by audiotaping the group-home tours and the posttour interviews conducted with the social worker and using the audiotapes to identify the number of steps performed correctly.

Ten steps pertained to the asking of the 10 preference questions. A question was defined as a participant-initiated inquiry that addressed the salient aspects of a preference (e.g., "Could I smoke here?"). Ten steps were associated with the use of a clarification strategy. The clarification strategy could be scored as correct, incorrect, or not applicable. If the group-home director's response to a question contained conflicting information (e.g., "No, not right away but maybe later") or a conditional statement (e.g., "When you meet the requirements, yes"), participants were to seek clarification by asking the director to give a more direct response. If the participant did not seek clarification, it was scored as incorrect. If a director's response was direct and contained no conflicting or conditional information ("Yes, you could use the phone anytime"), participants were not expected to ask for clarification, and the clarification step corresponding to that preference question was scored as not applicable.

Ten steps were associated with reporting the preference information during the posttour interview. A correct report was scored when participants accurately conveyed the preference information they had received during the tour in response to questions from the social worker. During the interviews, participants were asked about the availability of each of their 10 preference items. They were asked to respond to each question (e.g., "Would you have a day job?") with a "yes," "no," "maybe," or "I don't know." The social worker recorded the responses on the evaluation worksheet tailored to each participant's 10 preference items. Participants' reporting responses were scored as correct only if the relevant information was volunteered by the tour guides or if the information was given in response to a question asked by participants during the tours. For example, if a tour guide volunteered two

pieces of information related to a preference and the participant asked one additional question pertaining to a third preference item, then the maximum number of correct reports possible would be three or 30%. This was done to control for the effects of chance on the reporting of preference availability information. If the information was not available during the tours, participants could not receive credit for accurately reporting it.

The final step of the task analysis required the participants to make a decision about the group home that had just been toured. At the conclusion of the posttour interview, the social worker asked if the home they had just toured would be a good place to live. Participants could either make a correct "no" decision or a correct "yes" decision dependent upon the score the group home had received. If a group home scored 11 points or above and participants accurately reported enough of the preference availability information to make a decision, they received credit for a correct decision if they answered "yes" to the social worker's concluding question. If a group home scored 10 points or below and participants accurately reported enough of the preference availability information to make a decision, they received credit for a correct decision if they answered "no" to the social worker's concluding question. An incorrect decision was scored in all other cases (i.e., participants did not accurately report enough of their preference availability information; the group-home points did not meet the criterion for the answer given).

Procedures

Pretraining community probes. To assess participants' skills at asking questions regarding their preferences, clarifying answers received, reporting information, and making decisions, they were taken individually to community group homes and were given tours by group-home staff. The community probes consisted of a briefing conducted just prior to a tour, the tour itself, and an interview conducted immediately upon returning from a tour. During the pretour briefing, conducted in the social worker's office on the facility grounds, the social worker reviewed a participant's 10 preferences (e.g., "You said that you wanted to be able to work at a day job") and instructed the participant to determine the availability of the preferences in the group home to be toured. The participant was then driven to one of the group homes and was given a tour. Prior to the study, group-home staff were told that the tours were part of a community living preference project. They were asked to provide a tour just as they would for any potential resident. Tours generally consisted of a walk through the home, a description of house procedures and rules, and an opportunity for the participants to ask questions.

Following the tour, the participant returned to the facility for the posttour interview. During the interview, the social worker read each of the 10 preference questions (e.g., "Would you have a day job?") and gave the participant four response options: "yes," "no," "maybe," or "I don't know." After all 10 questions were answered, the social worker asked the participant if he or she would like to live in the group home they had just toured. Neither the preference booklets nor the evaluation worksheets were used during these probes. No feedback or consequences were given regarding performance.

Pretraining simulations. Pretraining simulation tests were conducted in a furnished, vacant two-bedroom home on the facility grounds. The pretests were conducted in the same fashion as the pretraining community probes, with a staff member from the facility playing the role of social worker and a female confederate playing the role of the group-home staff member. Scripted tours developed in the Foxx et al. (1993) study

from four community group homes were updated and used in the present study during the simulated tours. The scripts were developed by audiotaping group-home directors as they gave representative tours of their homes. At the conclusion of the tours, directors were asked specific questions related to the preferences. The tapes were transcribed and the tour transcripts were used to conduct the simulated tours. The directors' answers to preference questions were used when participants asked questions related to one of their preference items. Two sets of answers were developed. The first set consisted of the director's initial response to a preference question, which was often lengthy and contained conditional information. When this occurred, the director was asked to answer with a "yes," "no," or "maybe." These prompted responses were used to develop the second set of scripted answers. The first set of responses was used during simulation testing (and training) when the tour guide gave standard answers to preference questions. If participants asked for clarification, the second set of answers was used. (No participant asked for clarification until after training.)

Training. All training sessions took place in a facility conference room, were conducted individually, and lasted approximately 60 min. In the initial session, the participant was told that the purpose of the training was to teach him or her how to obtain information about preferences when visiting a group home and how to use that information to decide if a particular home would be a good place to live. The participant was informed that the criterion for completion of training was performance of 100% of the steps of the task analysis with no help across four consecutive trials over a period of no less than 3 days. Sue, Bob, and Todd all required five training trials to reach the training criterion. Joe required the minimum of four trials. They were also informed that they would receive 25 cents for each training session that they attended and an additional 25 cents for each training session in which they scored 100% on a training trial.

Next, the experimenter explained the preference booklet and the evaluation worksheet and modeled all steps of the task analysis. The trainer modeled asking questions by turning to the first photo in the preference booklet and reading aloud the corresponding question located below the photo. The trainer then described a hypothetical response to the question and modeled how to score that answer in the boxes below the question. The trainer first modeled how to score simple "yes," "no," and "maybe" answers by placing an X in the corresponding box below the question. In addition, the trainer modeled a strategy for clarifying extended or ambiguous responses. Participants were told that if a response consisted of more than a simple "yes," "no," or "maybe," they were to ask for clarification by saying, "Is that a yes, no, or a maybe?" They were instructed to use the clarification strategy until the tour guide committed to a yes, no, or maybe answer. The trainer modeled use of the booklet by asking all 10 questions and scoring 10 hypothetical responses, making sure that each response was scored at least once during the model.

The trainer then modeled the use of the evaluation worksheet. Use of the worksheet included transferring the preference availability information from the booklet to the worksheet and marking off the appropriate number of squares that made up the sidewalk leading to the house at the bottom of the worksheet. Squares were marked off for each individual preference item before going on to the next item. The trainer modeled the scoring of all 10 preference items. Next, the trainer described and modeled the decision-making step included on the worksheet. If the shaded area of the sidewalk contained any Xs, participants were to circle "yes" un-

der the decision question (i.e., "Based on this information, would this group home be a good place for you to live?"). If there were no Xs in the shaded area, they were to circle "no." Both exemplars were modeled. Finally, the trainer modeled the steps needed for participants to complete the exit interview with the social worker. This involved using the completed worksheet to answer questions from the social worker about their preferences (e.g., "Would you have a day job?") and to provide the social worker with an answer to the decision question at the bottom of the worksheet.

After the modeling trial, all subsequent trials were conducted identically using a total task training format. Each trial began with the trainer role-playing the tour guide at the conclusion of one of the scripted tours. For example, the trainer would say, "That's about it. Do you have any questions?" The participant was then given the opportunity to ask preference questions while the trainer continued to play the role of the tour guide. After the participant had asked and scored all 10 preference questions, the trainer played the role of social worker, and the participant completed the evaluation worksheet and the exit interview.

Instructional prompts and feedback were consistent throughout each trial across all sessions. Participants were given the opportunity to perform each step of the task analysis independently without trainer prompts. If an error occurred or if the participant failed to respond within 15 s, the trainer interrupted and provided a general prompt (e.g., "No, what's the next step?"). If the participant still responded incorrectly or gave no response, the trainer provided a verbal description of the correct response (e.g., "No, you need to record that answer before you ask the next question"). If still incorrect or no response, the trainer provided a model plus a verbal description of the correct response (e.g., "No, you need to record that answer before you ask the next question. Here is how you would do that"). If the participant performed a step correctly following any level of prompt, he or she was immediately given descriptive feedback (e.g., "Yes, that's right, you remembered to score that answer before you asked the next question").

In addition to the prompts and feedback used throughout each trial, response-contingent consequences were provided at the completion of each main component (i.e., asking questions, clarifying ambiguous answers, and recording information; completing the worksheet; reporting to the social worker). If a participant required trainer prompts to perform the steps of the component, the trainer provided descriptive feedback (e.g., "You did a good job of asking all of your questions. I had to remind you to record one of the answers but you remembered all of the rest"). If no errors occurred, general praise was delivered (e.g., "Nice job"). At the conclusion of the entire trial, general feedback and praise were provided.

Posttraining simulations. Posttraining simulation tests were conducted in a fashion similar to the pretests with two exceptions. First, the participant was given the preference booklet and was reminded to use it on the tours. Second, the evaluation worksheet was presented at the posttour interviews to record preference availability information and to use that information to evaluate the group homes. During the posttraining simulation tests, participants were required to perform 100% of the steps of the task analysis on two consecutive occasions before they were tested in the community. If a participant performed at less than 100% during a posttraining simulated test, remedial training was conducted.

Remedial training. Remedial training took place in the same conference room in which training was conducted and consisted of the trainer and the participant role-playing the steps of the task analysis that the participant

failed to perform during the simulation test trial. Instructional prompts and feedback procedures were identical to those used in training. Only Bob required remedial training. During his first posttraining simulation test, he failed to employ the clarification strategy following a response to one of his preference questions that required clarification. Remedial training consisted of the experimenter providing a number of answers in response to preference questions posed by the participant, some of which required clarification. Training continued until Bob correctly employed the strategy on five consecutive trials.

Posttraining community probes. Procedures used during the posttraining community probes were similar to those used during the pretraining community probes. Participants were allowed, however, to use the booklets and worksheets as they did in the posttraining simulation tests. The same two group homes used for the pretraining community probes were used for the posttraining community probes.

Follow-up. Procedures used during the follow-up assessments were identical to those used during the posttraining simulation tests with one exception. Participants were reminded by the confederate social worker to ask for clarification when they were given extended or ambiguous answers to their preference questions.

Experimental Design

A multiple baseline design across participants was implemented in order to assess participants' skills at obtaining information about a group home, reporting that information back to a social worker, and making a decision about whether the home would be a good place to live based on the availability of the variables that they had selected as most important. A follow-up assessment was conducted 3 to 4 weeks after posttesting. Pretest and posttest generalization probes were conducted in group homes in the community.

Interobserver Agreement

Interobserver agreement was determined by having a secondary observer independently score participants' performance during tours. Agreement scores, calculated by dividing agreements by agreements plus disagreements and multiplying by 100%, were obtained for 50% of all community probes, 44% of all simulation tests, and 100% of all follow-up assessments. At least 46% of each participant's test trials were scored by both observers. The mean agreement scores by condition were 100% for pretraining community probes, 99.5% (range, 96.7% to 100%) for pretraining simulation tests, 97.5% (range, 96.7% to 100%) for posttraining simulation tests, 95.1% (range, 90.3% to 100%) for posttraining community probes, and 96.7% (range, 93.5% to 100%) for follow-up assessments. The overall mean agreement score across all test trials was 98.1%.

RESULTS

Figure 1 shows individual participant data. During the pretraining community probes, the percentage of task analysis steps completed correctly was at or below 22% for all participants (M = 6.9%; range, 0% to 22%). The mean percentage of task analysis steps completed correctly during the pretraining simulations was slightly higher (M = 19.3%; range, 0% to 46%). Following training, the percentage of steps completed correctly increased substantially for all participants during simulations (M = 99.6%; range, 96% to 100%) and community probes (M = 92.9%; range, 83% to 100%).

One participant, Bob, completed 96% of the steps correctly during the first posttraining simulation session. Because his perfor-

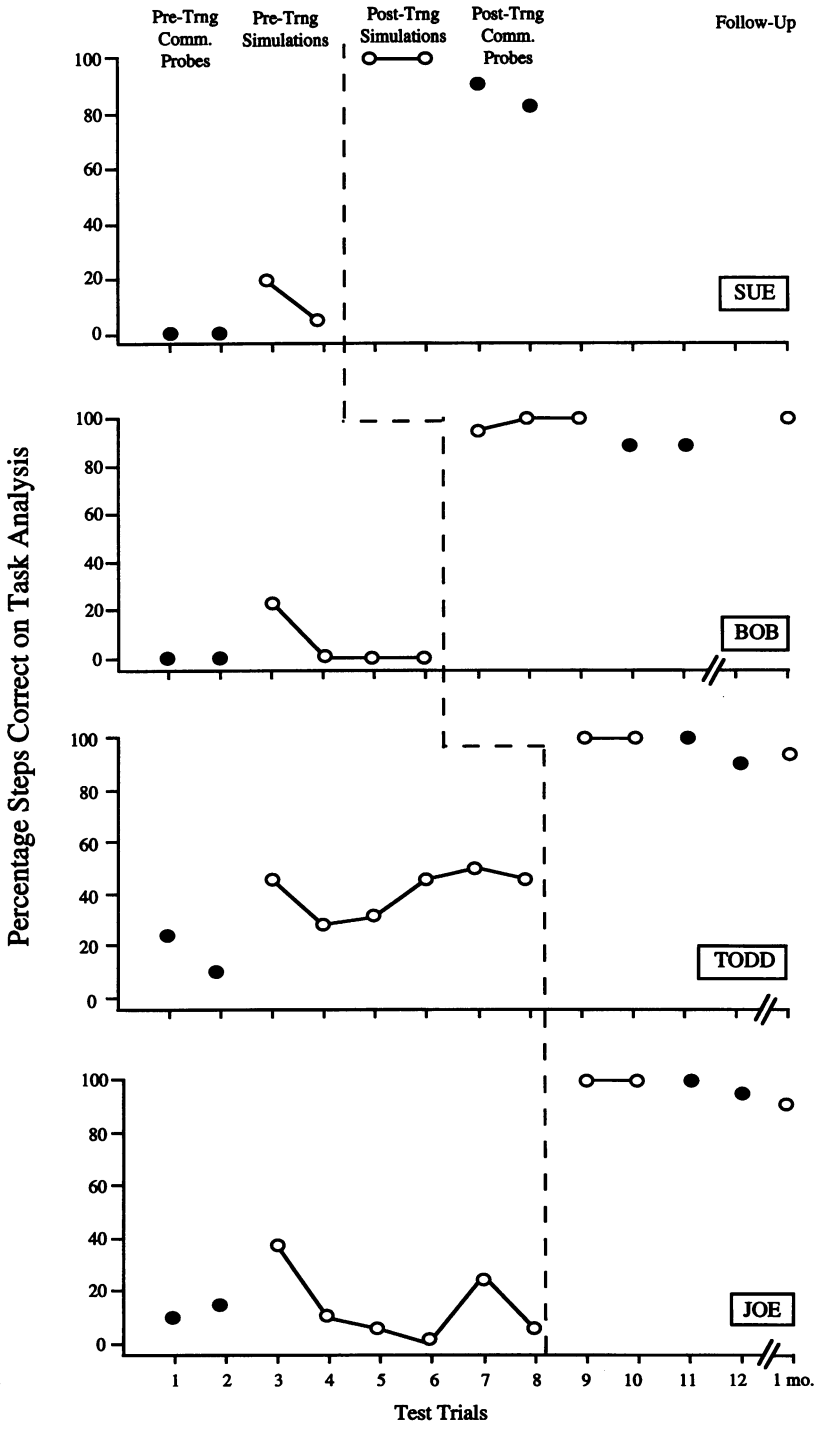

Figure 1. Percentage of the steps of the self-determination task analysis performed correctly by Sue, Bob, Todd, and Joe during pretraining and posttraining community probes (closed circles) and pretraining simulations, posttraining simulations, and follow-up (open circles).

mance fell below the criterion set for simulated test trials, he received remedial training prior to continued testing. At 1-month follow-up, the percentage of steps completed correctly was 100% for Bob, 96% for Todd, and 86% for Joe. A follow-up session was not conducted with Sue.

Because the 31 steps of the task analysis fell into four categories (i.e., asking questions, asking for clarification, reporting the information, deciding on the suitability of the home), we further analyzed the results to evaluate the effects of training on these specific categories. The number of preference questions asked by the participants increased dramatically after training. Sue asked none of her questions during the two pretraining community probes and the two pretraining simulation tests before training and 100% on all tests conducted after training. Bob asked one question during the two pretraining community probes and the four pretraining simulation tests. After training, he asked 100% of his questions on all tests including follow-up. Todd's performance was variable prior to training. He asked from 10% to 90% of his questions during two pretraining community probes and six pretraining simulation tests (M = 54%). After training, he asked 100% of his questions on all tests. Joe asked from 0% to 20% of his questions before training (M = 8%) and 100% on all tests conducted after training.

The number of correct reports also increased substantially after training for all participants. Sue correctly reported on 0% to 40% of her preference information prior to training (M = 12.5%) and 80% to 100% after training (M = 95%). Bob correctly reported 0% to 30% of his preference information before training (M = 7.5%) and 90% to 100% after training (M = 97%). Todd's correct reporting ranged from 10% to 40% before training (M = 28.75%) and from 90% to 100% after training (M = 98%). Joe correctly reported from 10% to 60% of his information before training (M = 20%) and 80% to 100% on all tests after training (M = 96%).

With the exception of Todd, who asked some questions before training, there was little opportunity for participants to use the clarification strategy before training because they did not ask many of their questions. Prior to training, Sue did not ask any of her questions and thus never had the opportunity to ask for clarification. After training, she correctly used the clarification strategy 75% of the time (9 of 12 opportunities). Bob had one opportunity to ask for clarification prior to training and failed to do so. After training, he had 21 opportunities to use the clarification strategy and did so correctly during 18 of them (86%). Todd had 27 opportunities to ask for clarification prior to training but never did. After training, he correctly used the clarification strategy during 12 of 14 opportunities (86%). Joe had four opportunities to ask for clarification before training but never did. After training, he correctly used the clarification during 22 of 25 opportunities (88%).

A correct decision was not made by the participants prior to training because they never had sufficient information regarding their preferences to make a decision. After training, all 4 participants were able to make a correct decision following each one of their simulated tests, community probes, and follow-up tests.

Group-home staff members volunteered very little information regarding the participants' preferences before or after training. The amount of information volunteered during the community probes ranged from 0% to 10%. The amount of information volunteered during the simulated tours, which were based on transcripts of actual tours those homes provided, ranged from 0% to 60% (M = 22%).

DISCUSSION

The results of this study demonstrated the effectiveness of a training package that was designed to increase participants' self-determination. Given a preference booklet and an evaluation worksheet, participants were taught to ask preference questions during tours of group homes, to report the information back to a social worker, and to evaluate individual homes based on the availability of their preferences. In addition, participants were taught a strategy that enabled them to ask for clarification when a tour guide answered one of their preference questions with an extended or ambiguous response. The effects of training generalized from simulated group homes on the grounds of the facility to real group homes in the community. The 1-month follow-up tests conducted with 3 participants revealed that their performances were maintained.

This study extended the work of Foxx et al. (1993) by including an evaluation component that enabled participants to decide in a systematic fashion whether a home would be a good place to live. Residential placement decisions often are based on the preferences of parents, legal guardians, or staff members, or the availability of an opening at a home. It is important, however, that such a decision is shared with the person who will be most affected by it. The worksheet used in this study provides a strategy to increase the amount of meaningful input and control that people with mental retardation have in this decision-making process.

The need to teach people being considered for community placement how to ask questions about their preferences was supported by the data obtained in this study. An analysis of the information provided by group-home directors during tours of their facilities revealed that the characteristics of group-home living that the participants in this study had identified as most important to them were rarely addressed. For the most part, the kinds of information volunteered by the directors dealt largely with the physical layouts of their homes and some general rules and procedures. Further substantiating the need to teach self-determination skills is the fact that, prior to training, the participants asked very few of their preference questions despite being reminded of all 10 of their preferences and being instructed to determine the availability of those preferences just prior to leaving for each tour. Even Todd, who asked considerably more of his questions than did the other 3 participants, only asked about half of them prior to training.

There are several possible explanations for the low levels of pretraining questioning that occurred despite the fact that the participants had identified their community living preferences prior to the study. One explanation is that they may not have possessed the necessary social and assertiveness skills needed to gather the relevant information from the group-home directors. Another explanation could be that the 10 questions represented too many pieces of information to be recalled without additional prompts. Although giving participants an opportunity to use their preference booklets prior to training may have addressed this issue, a previous study conducted with people with the same type of disabilities demonstrated that simply providing them with booklets and no additional training did not substantially increase the number of questions asked (Foxx et al., 1993).

One final explanation for the participants' low pretraining questioning is that the number of opportunities to express preferences and make choices based on those preferences is typically minimal in institutions for persons with developmental disabilities (Kishi et al., 1988). Thus, the inability of the participants in this study to ask questions pertaining to their preferences may be attributed to

learning histories in which they were neither encouraged nor reinforced for expressing and inquiring about their preferences. Despite many positive outcomes that have been achieved by providing persons with disabilities the opportunities to express preferences and make choices (Datillo & Rusch, 1985; Newton et al., 1991; Pace et al., 1985; Parsons & Reid, 1990; Parsons et al., 1990), many professionals still believe that persons with mental retardation do not have the choice-making skills needed to make decisions that are in their best interests (Guess et al., 1985). It is not surprising that prior to training, the participants were unable to make a correct decision concerning any of the group homes that were toured. They never had the opportunity to make a correct decision because they never accurately reported a sufficient amount of information needed to make a decision. The lack of information volunteered by the group-home directors, coupled with the low levels of questioning by the participants prior to training, resulted in the acquisition of very little information with which to make a decision.

This study did not attempt to teach participants how to compare several homes with the intent of choosing one as the most suitable. The evaluation procedure taught in this study does not lend itself to this kind of comparison. For example, based on the scoring procedures taught to the participants in training, two homes receiving an identical score of 12 would both be considered "yes" homes. One home, however, may have provided six "yes" answers and four "no" answers, whereas the other home provided eight "maybe" answers and only two "yes" answers to a participant's 10 preference questions. In this case, which home is the most suitable? Further research should seek to develop procedures for evaluating individual homes that allow participants to make direct comparisons of several homes. This may require procedures that teach them to rank or prioritize their preferences so that each one is weighted differently. Comparisons between multiple homes then could be based not only on the number of preferences available but also on the ranking of those available items.

Although this study demonstrated that persons with disabilities can have meaningful input into the placement decision-making process, the most significant outcome of the study would be that the participants moved into preferred homes and experienced an improved quality of life. The reality is, however, that residential placement decisions usually are not made by the persons with disabilities themselves (Turnbull et al., 1989). At the facility in which this study was conducted, decisions are often based on the fact that a home has an opening rather than on a person's preference for that particular home. For instance, although follow-up revealed that Sue moved into a preferred home, the other participants were still residing in the facility at the conclusion of the study because there were no openings in the community. Furthermore, even though there was overall staff support for the program, the current practice of filling a group-home opening with an individual on a waiting list regardless of preferences probably will not change without the involvement and support of facility and group-home administrators.

The major steps of the decision-making model used in this study are generic: (a) express preferences; (b) ask direct, relevant questions; (c) record, report, and summarize responses; and (d) make a data-based decision. They could be applied to other major decisions that have long-term consequences, such as selecting a job (e.g., working at a fast food restaurant vs. doing janitorial work). To implement this procedure systematically, however, is time consuming. It requires identifying relevant items to include

in a preference assessment (e.g., work with other people or work alone, work inside or work outside), developing pictorial representations of the preference options, proceeding through a series of evaluations to determine individual preferences, and training participants to use the materials to obtain information and make decisions. Considering the time and effort involved in developing a systematic decision-making program such as this, the program appears to be appropriate for decisions with long-term consequences, such as where one lives or works, and for decisions in which the preference is expected to be relatively stable over time. Such an elaborate procedure may not be necessary or appropriate for other decisions, such as those that are made daily (e.g., what to wear), that have less serious consequences (e.g., purchase a sweater or a sweatshirt), or that are made about preferences that may change regularly (e.g., coffee or milk for breakfast). Individuals should be provided with opportunities to make choices in these situations, but the procedures may not need to be as elaborate because the risks associated with these decisions appear to be minimal. Future research might examine simple yet systematic procedures for teaching people to make choices that occur frequently.

Attention has been focused on the need to increase the self-determination skills of people with mental retardation (Wehmeyer & Metzler, 1995). Most work in this area has been done by social workers, counselors, and advocates who have little training in developing operational definitions, providing systematic instruction, and evaluating program effectiveness. This study illustrates how behavior analysts can assist professionals from other disciplines in measuring the outcomes of their efforts.

REFERENCES

Accreditation Council. (1992). *Outcome based performance measures* (field review ed.). Londover, MD: Author.

Bannerman, D. J., Sheldon, J. B., Sherman, J. A., & Harchik, A. E. (1990). Balancing the right to habilitation with the right to personal liberties: The rights of people with developmental disabilities to eat too many doughnuts and take a nap. *Journal of Applied Behavior Analysis, 23,* 79–89.

Datillo, J., & Rusch, F. R. (1985). Effects of choice on leisure participation for persons with severe handicaps. *Journal of the Association for Persons with Severe Handicaps, 10,* 194–199.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior.* New York: Plenum.

Foxx, R. M., Faw, G. D., Taylor, S., Davis, P. K., & Fulia, R. (1993). "Would I be able to . . .?" Teaching clients to assess the availability of their community living preferences. *American Journal on Mental Retardation, 98,* 235–248.

Guess, D., Benson, H. A., & Siegel-Causey, E. (1985). Concepts and issues related to choice-making and autonomy among persons with severe disabilities. *Journal of the Association for Persons with Severe Handicaps, 10,* 79–86.

Heal, L. W., & Sigelman, C. K. (1990). Methodological issues in measuring the quality of life of mentally retarded individuals. In R. L. Schalock (Ed.), *Quality of life: Perspectives and issues* (pp. 299–333). Washington, DC: American Association on Mental Retardation.

Keith, K. D. (1990). Quality of life: Issues in community integration. In R. L. Schalock (Ed.), *Quality of life: Perspectives and issues* (pp. 93–100). Washington, DC: American Association on Mental Retardation.

Kishi, G., Teelucksingh, B., Zollers, N., Park-Lee, S., & Meyer, L. (1988). Daily decision-making in community residences: A social comparison of adults with and without mental retardation. *American Journal on Mental Retardation, 92,* 430–435.

Lakin, K. C., Hill, B. K., & Bruininks, R. H. (1988). Trends and issues in the growth of community residential services. In M. P. Janicki, M. W. Krauss, & M. M. Seltzer (Eds.), *Community residences for persons with developmental disabilities: Here to stay* (pp. 25–42). Baltimore: Paul H. Brookes.

Mithaug, D. E., & Mar, D. K. (1980). The relation between choosing and working prevocational tasks in two severely retarded young adults. *Journal of Applied Behavior Analysis, 13,* 177–182.

Newton, J. S., Horner, R. H., & Lund, L. (1991). Honoring activity preferences in individualized plan development: A descriptive analysis. *Journal of the Association for Persons with Severe Handicaps, 16,* 207–212.

Pace, G. M., Ivancic, M. T., Edwards, G. L., Iwata, B. A., & Page, T. J. (1985). Assessment of stimulus preference and reinforcer value with profoundly retarded individuals. *Journal of Applied Behavior Analysis, 18,* 249–255.

Parsons, M. B., & Reid, D. H. (1990). Assessing food preferences among persons with profound mental retardation: Providing opportunities to make choices. *Journal of Applied Behavior Analysis, 23,* 183–195.

Parsons, M. B., Reid, D. H., Reynolds, J., & Bumgarner, M. (1990). Effects of chosen versus assigned jobs on the work performance of persons with severe handicaps. *Journal of Applied Behavior Analysis, 23,* 253–258.

Shevin, M., & Klein, N. (1984). The importance of choice-making skills for students with severe disabilities. *Journal of the Association for Persons with Severe Handicaps, 9,* 159–166.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychology perspective on mental health. *Psychological Bulletin, 103,* 193–210.

Turnbull, H. R., III, Turnbull, A. P., Bronicki, G. J., Summers, J. A., & Roeder-Gordon, C. (1989). *Disability and the family: A guide to decisions for adulthood.* Baltimore: Paul H. Brookes.

Wehmeyer, M. L., & Metzler, C. A. (1995). How self-determined are people with mental retardation? The National Consumer Survey. *Mental Retardation, 33,* 111–119.

Williams, R. (1991). Choices, communication, and control: A call for expanding them in the lives of people with severe disabilities. In L. H. Meyer, C. A. Peck, & L. Brown (Eds.), *Critical issues in the lives of people with severe disabilities* (pp. 543–544). Baltimore: Paul H. Brookes.

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STUDY QUESTIONS

1. How was self-determination defined in this study and in what context was it examined?
2. How were the subjects' living preferences initially assessed?
3. How did the forced-choice arrangement for assessing relative preference for living options differ from typical forced-choice ranking procedures, and how might this difference have affected the final rankings?
4. What special materials were developed for use in this study and what were their functions?
5. What four categories of skills were contained in the 31-step task analysis and how were these taught?
6. Describe the methodology used for evaluating the effects of the training program and the results that were obtained.
7. In addition to the procedures and results presented in the study, what additional data were available that might be informative to researchers or practitioners involved in community placement for individuals with developmental disabilities?
8. The authors noted that, although the skills taught in the study were important from the standpoint of individual decision making, the functional utility of having those skills may be limited. What is the source of this problem and can you suggest any ways to solve it?